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A.D. 1855 . . . . . N° 577.

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S P E C I F I C A T I O N

OF

CHARLES GOODYEAR, JUNIOR.

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PLATES FOR ARTIFICIAL TEETH.

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### Plates for Artificial Teeth.

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**LETTERS PATENT** to Charles Goodyear, jun<sup>r</sup>, of No. 42, Avenue Gabriel, Champs Elysées, in the City of Paris, for the Invention of “**IMPROVEMENTS IN THE PLATES OF ARTIFICIAL TEETH.**”

Sealed the 8th May 1855, and dated the 14th March 1855.

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**PROVISIONAL SPECIFICATION** left by the said Charles Goodyear, jun<sup>r</sup>, at the Office of the Commissioners of Patents, with his Petition, on the 14th March 1855.

I, CHARLES GOODYEAR, jun<sup>r</sup>, of No. 42, Avenue Gabriel, Champs Elysées, 5 in the City of Paris, do hereby declare the nature of the Invention for “**IMPROVEMENTS IN THE PLATES OF ARTIFICIAL TEETH**” to be as follows :—

This Invention consists of constructing the plates of artificial teeth of the hard product obtained by compounding india-rubber or gutta percha (with or without other matters) with sulphur, and subjecting the same to a high temperature. For this purpose I take an impression from the mouth of the patient (in the manner usually practised by dentists) with wax or suitable plastic material, from which impression I take a cast in plaster of Paris. Upon this model I carefully adjust teeth of the form and size required, and in the position which I wish them afterwards to occupy in the mouth of the patient, using 15 wax or other plastic substance to retain them in the proper position. I then spread a thin coat or layer of wax over portions of the model, of the form and



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thickness required, which layer of wax represents a model of the plate of caoutchouc which is afterwards to support the teeth and keep them firm in the mouth. When the crevices or cavities in or between the teeth are filled up with the wax, and the model of the plate completed, I take a plaster cast from the same, which cast I prefer should be enclosed in an iron rim or box for the purpose of strength. This, when completed, together with the original plaster model (which I also prefer should be in an iron rim), form a mould which I use in the following manner:—

After removing the wax from the cavities and crevices in or between the teeth, I readjust the teeth in their proper positions in the mould. I then fill up the cavities and crevices and other vacant space in the mould with caoutchouc or gutta percha suitably prepared with sulphur, and after putting the several parts of the mould together and subjecting them to a sufficient degree of pressure, I cause the whole, that is to say, the mould containing the teeth with the caoutchouc or gutta percha, to be subjected to heat to convert the compound into the hard product. To obtain a suitable colour, I mix with the caoutchouc or gutta percha vermillion, oxides of zinc or iron, or any colouring substance which will stand the necessary degree of heat with the action of the sulphur. The best compound I believe to be one pound of india-rubber or gutta percha, or of the two combined in suitable proportions, with half a pound of sulphur, together with a suitable quantity of colouring matter.

I sometimes find it convenient to substitute the material for the masticators or teeth hidden from view, for which purpose the material is well fitted from its extreme hardness and durability. In order that the teeth may be more firmly attached to the plate, I prefer that they should be jagged or rough, or have small cavities in the roots or parts imbedded in the plates.

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**SPECIFICATION** in pursuance of the conditions of the Letters Patent, filed by the said Charles Goodyear, junior, in the Great Seal Patent Office on the 11th September 1855.

**TO ALL TO WHOM THESE PRESENTS SHALL COME, I, CHARLES GOODYEAR, junior, of No. 42, Avenue Gabriel, Champs Elysées, in the City of Paris, send greeting.**

**WHEREAS** Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Fourteenth day of March, in the year of our Lord One thousand eight hundred and fifty-five, in the eighteenth year of Her



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reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Charles Goodyear, Her special licence that I, the said Charles Goodyear, my executors, administrators, and assigns, or such others as I, the said Charles Goodyear, my executors, administrators, and assigns, should  
5 at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for “**IM-  
PROVEMENTS IN THE PLATES OF ARTIFICIAL TEETH,**” upon the condition (amongst  
10 others) that I, the said Charles Goodyear, by an instrument in writing under my hand and seal, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters  
15 Patent.

**NOW KNOW YE**, that I, the said Charles Goodyear, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof (that is to say):—

20 This Invention consists of constructing the plates of artificial teeth of the hard product obtained by compounding india-rubber or gutta percha (with or without other matters) with sulphur, and subjecting the same to a high temperature. For this purpose I take an impression from the mouth of the patient (in the manner usually practised by dentists) with wax or suitable plastic  
25 material, from which impression I take a cast in plaster of Paris. Upon this model I carefully adjust teeth of the form and size required, and in the position which I wish them afterwards to occupy in the mouth of the patient, using wax or other plastic substance to retain them in the proper position. I then spread a thin coat or layer of wax over portions of the model, of the form and  
30 thickness required, which layer of wax represents a model of the plate of caoutchouc which is afterwards to support the teeth and keep them firm in the mouth. When the crevices or cavities in or between the teeth are filled up with the wax, and the model of the plate completed, I take a plaster cast from the same, which cast I prefer should be enclosed in an iron rim or box for the  
35 purpose of strength. This, when completed, together with the original plaster model (which I also prefer should be in an iron rim), form a mould which I use in the following manner:—

After removing the wax from the cavities and crevices in or between the teeth, I readjust the teeth in their proper positions in the mould. I then fill



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up the cavities and crevices and other vacant space in the mould with caoutchouc or gutta percha suitably prepared with sulphur, and after putting the several parts of the mould together, and subjecting them to a sufficient degree of pressure, I cause the whole, that is to say, the mould containing the teeth with the caoutchouc or gutta percha, to be subjected to heat, to convert the 5 compound into the hard product. To obtain a suitable colour, I mix with the caoutchouc or gutta percha vermilion, oxides of zinc or iron, or any colouring substance which will stand the necessary degree of heat with the action of the sulphur. The best compound I believe to be one pound of india-rubber or gutta percha, or of the two combined in suitable proportions, with half a 10 pound of sulphur, together with a suitable quantity of colouring matter.

I sometimes find it convenient to substitute the material for the masticators or teeth hidden from view, for which purpose the material is well fitted from its extreme hardness and durability. In order that the teeth may be more firmly attached to the plate, I prefer that they should be jagged or rough, or 15 have small cavities in the roots or parts imbedded in the plates.

Having thus described the nature of the said Invention, I have only further to state, that in thus making improvements in artificial plates and teeth of india-rubber and gutta percha compounds, combined with sulphur, that whilst in the moulds I cause the materials and the moulds to be subjected to heat 20 for about six hours, and in doing so I gradually raise the heat up to about 230° of Fahrenheit, say, in about half an hour, and then, unless there be a considerable quantity of foreign matter present, the heat may be raised as quickly as may be to about 295° of Fahrenheit; otherwise I raise the heat more slowly, and retain the compound at about that temperature for the remainder of the 25 six hours, and then allow the whole to cool down, when the process will be completed. The artificial plates or teeth thus formed will then be ready to be trimmed and fitted.

I claim the above-described manufacture of artificial plates and teeth.

In witness whereof, I, the said Charles Goodyear, have hereunto set my 30 hand and seal, this Eighth day of September, in the year of our Lord One thousand eight hundred and fifty-five.

CHAS GOODYEAR, Jr. (L.S.)

Witness,

FANNY GOODYEAR.

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